UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

SUBJECT:	CLEAN AIR ACT INSPECTION REPORT Synergy Flavors, Wauconda, Illinois
FROM:	Karina Kuc, Environmental Engineer AECAB (IL/IN)
THRU:	Nathan Frank, Section Supervisor AECAB (IL/IN)
TO:	File

BASIC INFORMATION

Facility Name: Synergy Flavors, Inc.

Facility Location: 1500 Synergy Dr, Wauconda, IL 60084

Date of Inspection: August 26, 2022

EPA Inspector(s):
1. Karina Kuc, Environmental Engineer
2. Meaghan Pashen, Environmental Engineer
3. Brittany Cobb, Environmental Engineer

Other Attendees:
1. Neal Perdkiri, Maintenance Supervisor
2. Bill McGurk, Plant Manager
3. Adam Gromer, EHS Manager (closing conference only by phone)

Contact Email Address: agromer@synergytaste.com

Purpose of Inspection: to assess compliance with the facility's Federally Enforceable State Operating Permit (FESOP) and the Illinois State Implementation Plan (SIP)

Facility Type: artificial flavor production

Regulations Central to Inspection: Spray Dryers 1 - 4 are subject to 35 Illinois Administrative Code (Ill. Adm. Code) Part 218 Subpart TT

Arrival Time: 9:45 AM
Departure Time: 11:35 AM

Inspection Type:
☒ Unannounced Inspection
☐ Announced Inspection

OPENING CONFERENCE

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☒ Provided Small Business Resource Information Sheet
☐ Small Business Resource Information Sheet not provided.
☒ Provided CBI warning to facility

The following information was obtained verbally from company staff unless otherwise noted.

Process Description: Synergy Flavors, Inc. (Synergy or the facility) blends various raw materials to make dry and liquid flavors. In the liquids line, there are 74 liquid blending vessels that range in size from 20 to 220 gallons. Raw materials are added to a tank, agitated, and the final product is packaged into a gallon, tote or drum container. Steam heat is occasionally applied at 120 ºF. In the spray dry line, there are six blending vessels and four dryers. Raw materials are mixed in a blending vessel then then dried in a spray dryer to evaporate water and form a powder. The dryers run at 390 ºF. The blending vessels are controlled by a dust collector. The spray dryers are entirely enclosed and routed to a regenerative thermal oxidizer (RTO). The RTO is run continuously. In the powders line, there are four mix rooms each containing a powder blender. Dry raw materials are mixed to form a final product. The powder blenders are routed to a dust collector.

Staff Interview: The facility runs at a minimum of 24 hours a day and five days a week but can run seven days a week if there is enough work. Only the spray dry line runs a third shift. The facility installed a fourth dryer in 2018 which required them to install the RTO. The RTO has a setpoint of 1587 ºF and the gauge is calibrated annually. The facility performs weekly, semiannual and annual inspections/maintenance on the RTO. An RTO burnout occurred about 1.5 years ago. The facility uses thousands of raw materials. High fructose corn syrup, ethanol and propylene glycol are received in bulk. Dust collector filters are replaced annually.

According to the facility's FESOP Application No. 18120022, Spray Dryers 1 - 4 are subject to 35 Ill. Adm. Code Part 218 Subpart TT which requires "[e]mission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit". According to the VOM Capture and Control Efficiency Test Report dated June 26, 2018, the RTO system achieves an average overall efficiency of 97.89%. According to the facility's FESOP Application No. 18120022, "[t]he RTO shall be in operation at all times when any of the associated Spray Dryers (1 - 4) are in operation and emitting air contaminants." According to staff, the RTO is running when in production mode and if the RTO were to shut down, the spray dry line automatically shuts down.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations: EPA observed the pressure drop of the dust collector located in the liquid blending vessel room to be 1.9 inches of water column (" WC). The spray dryer dust collector pressure drop was observed to be 2" WC. The RTO temperature was 1576 ºF.

Photos and/or Videos: were not taken during the inspection.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Dust collector monitoring data and preventative maintenance (PM) for last 6 months
- RTO monitoring data and PM for last 6 months including:
  - Operating log
  - Retention time
  - Temperature
  - weekly
- RTO stack test and any other stack test performed including liquids performance test
- Permit application
- Air emissions spreadsheet including throughputs for 2020 and 2021
- SDSs:
  - representative of about 80% of raw materials used in last year
  - solvents for cleaning
  - propylene glycol
  - ethanol
  - high fructose corn syrup
  - SDSs for product in tanks during 2018 stack test

DIGITAL SIGNATURES

Report Author: KARINA KUC Digitally signed by KARINA KUC Date: 2022.10.17 15:10:21 -05'00'

Section Supervisor: Frank, Nathan Digitally signed by Frank, Nathan Date: 2022.10.24 14:54:13 -05'00'